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AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for supporting the respiration of a patient comprising the steps of:

~~detecting the spontaneous respiration of the patient is by sensors;~~

identifying the inspiratory and expiratory phase of breathing using at least one spontaneous respiration sensor adapted to sense the breathing of the patient~~end of the inhalation process~~; and

administering an additional amount of oxygen gas to the lungs cyclically in synchrony with the patient's spontaneous breathing pattern via a transtracheal catheter placed into the airway without occluding the airway to create an open ventilation system.

2. (Currently Amended) The method of claim 1, wherein the additional amount of oxygen gas is administered at the end of an inhalation process.

3. (Currently Amended) The method of claim 1, wherein the amount of oxygen gas has a volume of about between 25 ml – 150 ml.

4. (Currently Amended) The method of claim 2, wherein the amount of oxygen gas has a volume of about between 25 ml – 150 ml.

5. (Currently Amended) The method of claim 1, further comprising the step of ~~braking the exhalation process of the patient with a countercurrent~~applying a countercurrent of flow into the lung in synchrony with the patient's exhalation phase of breathing.

6. (Currently Amended) The method of claim 2, further comprising the step of ~~braking the exhalation process of the patient with a countercurrent~~applying a countercurrent of flow into the lung in synchrony with the patient's exhalation phase of breathing.

7. (Currently Amended) An apparatus for supporting the respiration of a patient that comprises an oxygen gas pump operatively connected to an oxygen source, the apparatus further comprising:

a catheter connected at one end to the oxygen pump, and at the other end inserted transtracheally into the trachea of the patient and wherein the inserted portion of the catheter does not occlude the airway to create an open ventilation system;

at least one patient respiration ~~-~~sensors for detecting the spontaneous respiration phases of the patient~~, the sensors are connected to~~ ;

and a control unit for ~~activating~~ controlling the oxygen pump to deliver gas intermittently in synchrony with the inspiratory phase and or the expiratory phase of breathing, wherein the control unit is connected to the sensor.

8. (Currently Amended) The apparatus of claim 7, further comprising a tracheal prosthesis having a tubular support body, wherein the support body comprises a connection for attachment of the catheter and wherein the catheter is inserted into the tubular support body, wherein the catheter and prosthesis are designed to not occlude the tracheal airway~~wherein the oxygen pump comprises a tracheal prosthesis connectible by a catheter, the tracheal prosthesis having a tubular support body with a connection for the catheter~~.

9. (Currently Amended) The apparatus of claim ~~8~~7, further comprising a tracheal prosthesis, wherein the sensors ~~are~~ is associated with ~~the support body of~~ the tracheal prosthesis and wherein the sensor is not in line with airflow from the ventilator and not in the gas delivery circuit, and at least a portion of the sensor is in airflow in the trachea to measure spontaneous breathing airflow.

10. (Currently Amended) The apparatus of claim ~~9~~7, further comprising a tracheal prosthesis, wherein the at least one sensor is coupled with the inner wall of the support body for generating a reference signal.

11. (Original) The apparatus of claim 9, wherein the end of the catheter located in the support body is deflected approximately parallel to its longitudinal axis (L) an is provided on the end with a jet nozzle.

12. (Original) The apparatus of claim 10, wherein the end of the catheter located in the support body is deflected approximately parallel to its longitudinal axis and is provided on the end with a jet nozzle.

13. (Currently Amended) The apparatus of claim 7, wherein the oxygen pump is a piston pump, which delivers gas toward the patient when stroking in both directions.

14. (Currently Amended) The apparatus of claim ~~12~~7, wherein the at least one sensor comprises at least two sensors~~oxygen pump is a piston pump~~.

15. (Currently Amended) The apparatus of claim ~~8~~7, wherein the catheter has a double-lumen ~~design~~configuration, wherein one lumen is used for delivering gas in synchrony with the patient's spontaneous inspiratory phase of breathing and the second lumen is used for delivering gas in synchrony with the patient's spontaneous expiratory phase of breathing.

16. (Currently Amended) The apparatus of claim ~~7-14~~, wherein the catheter has a double-lumen configuration.

17. (Currently Amended) The apparatus of claim 7, further comprising an additional respiration sensors.

18. (Currently Amended) The apparatus of claim ~~9~~7, ~~further comprising additional~~wherein the at least one respiration sensors is adapted to be disposed on the catheter for positioning in a trachea.

19. (Currently Amended) A tracheal prosthesis comprising a tubular support body, a connection for a jet catheter and at least ~~two~~ one sensors coupled with the support body, wherein the prosthesis is configured not to occlude a tracheal airway to create an open ventilation system so that a patient is always breathing spontaneously past the prosthesis, and wherein at least one sensor is in the spontaneous breathing airflow in the trachea and is not in line with the gas flow from the ventilator.

20. (Currently Amended) The tracheal prosthesis of Claim 19, wherein the at least one ~~of the~~ sensors is coupled with the inner wall of the support body in the trachea.

21. (Currently Amended) The tracheal prosthesis of claim 19, wherein the ~~catheter is operatively coupled with the support body~~ connection for the jet catheter adapts the support body to allow the sensor to be connected to a ventilation control system.

22. (Currently Amended) The tracheal prosthesis of claim 20, wherein the ~~catheter is operatively coupled with the support body~~ sensor comprises of at least two sensors, whereby a compensation of measured value difference between the sensors can be provided.

23. (Currently Amended) ~~The catheter having a first and second end, one end affixable by at least one sensor~~A catheter for delivering ventilation to a patient comprising:

one end of the catheter attached to a ventilator,

an opposite end of the catheter inserted transtracheally into a trachea of a patient, the inserted end not occluding the tracheal airway to create an open ventilation system, and

at least one respiratory sensor on the inserted end of the catheter, wherein the sensor is not in line with the gas flow lumen of the catheter and is in line with the spontaneous breathing airflow in the trachea.

24. (Currently Amended) The catheter of claim 23, wherein the ~~at least one~~ tip of the inserted end comprises a jet nozzle.

25. (Currently Amended) The catheter of claim 23, wherein the ~~at least one~~ inserted end has a curved course.

26. (Currently Amended) The catheter of claims 24, wherein the ~~at least one~~ inserted end has a curved course.

27. (New) A method as in claim 1, further comprising the steps of: wearing a system adapted to support the respiration with open ventilation so a patient is mobile.

28. (New) An apparatus as in claim 7, wherein the apparatus is configured to be worn by a patient.

29. (New) A method of providing respiratory support to a spontaneously breathing patient with a catheter ventilation system, the method comprising:

delivering supplemental volume to a patient via a transtracheal catheter, wherein the supplemental volume delivery into a trachea is in the form of a jet from a catheter tip, and wherein the catheter does not obstruct the airway and is an open ventilation system, and the supplemental volume delivery is cyclical and synchronized with the patient's inspiratory and/or expiratory spontaneous breath phase,

detecting the patient's spontaneous breathing by an intra-tracheal respiration sensor which measures intra-tracheal airflow,

providing mobility to the patient by the catheter ventilation system being wearable by the patient.

30. (New) The apparatus of Claim 7, wherein the catheter has a jet nozzle and the cross-section of the jet nozzle is less than the cross-section of the catheter so that a discharge rate of supplied oxygen is increased.

31. (New) The apparatus of Claim 7, wherein the sensor is a temperature dependent sensor.

32. (New) The apparatus of Claim 7, wherein the sensor comprises two thermistor sensors to compensate for measured value differences.

33. (New) The apparatus of Claim 13, further comprising a valve to control exhalation counter flow.

34. (New) The apparatus of Claim 13, further comprising at least two valves in communication with the piston pump to control gas flow delivering to the patient and recharging of the pump.